Crystal growth, optical characterisation and laser operation of Yb^{3+} in monoclinic double tungstates

Xavier Mateos Ferré

This Thesis discusses a specific group of materials, the monoclinic potassium rare-earth double tungstates ($KRE(WO_4)_2$) un-doped and doped with lanthanide (Ln^{3+}) ions. The study concerns the crystal growth, the optical characterisation and the laser operation of Yb^{3+} in the stoichiometric $KYb(WO_4)_2$ and $KLu(WO_4)_2$ single crystals.
The results obtained within this thesis show the huge potential of diode-pumped solid-state lasers for compact, reliable and powerful sources of coherent radiation around 1μm.

Crystal growth, optical characterisation and laser operation of Yb^{3+} in monoclinic double tungstates • Xavier Mateos Ferré

UNIVERSITAT ROVIRA I VIRGILI

Crystal growth, optical characterisation and laser operation of Yb^{3+} in monoclinic double tungstates

Xavier Mateos Ferré

Supervised by:
Prof. Dr. Francesc Díaz and Dr. Jaume Massons

Física i Cristal·lografia de Materials
FiCMA

Tarragona, 2004